

**U.S. National Work Group Meeting
for the
Development of Hydrogen Measurement Standards**

October 3-4, 2007

National Institute of Standards and Technology (NIST)
Technology Services, Weights and Measures Division
Gaithersburg, Maryland

This meeting is sponsored by the U.S. Department of Energy and U.S. Department of Commerce's National Institute of Standards and Technology.

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Purpose: The U.S. National Work Group (USNWG) is meeting to begin work to establish a comprehensive set of (1) design, accuracy, installation, use, and method of sale requirements, (2) test procedures, and (3) quality standards for equipment used in hydrogen measurements for vehicle and other refueling applications.

ATTACHMENTS:

- (1) 2nd Draft of NIST H44 Gas Meters Code
- (2) OIML R81 "Dynamic Measuring Devices and Systems for Cryogenics Liquids"
- (3) OIML Project 2 TC8/SC7 "Compressed Gaseous Fuel Measuring Systems for Vehicles"

AGENDA – DAY 1

Wednesday, October 3, 2007, 9:00 a.m. – 5:00 p.m. (EST)
NIST, 100 Bureau Drive, Gaithersburg, MD 20899
Building 101, Lecture Room B
Moderator – Juana Williams (NIST)

- 9:00 - 10:30 **(1) Welcome and Introductions**
The Moderator welcomes the participants in-person and on audio conference, calls the meeting to order, and covers its purpose. The collaborative work by the meeting's sponsors will be recognized. Participants will be briefed on the facilities available at NIST and in Gaithersburg, the schedule of events, meeting procedures, and materials. Participants will be invited to provide their name, affiliation, and state their specific area of interest in the work to develop hydrogen measurement standards.
- (2) New Items for the Current and/or Future Agendas**
Participants are encouraged to provide input on topics of technical merit where the USNWG should focus their work or that should be addressed during this or future sessions. Items received in writing by September 27, 2007 will also be considered by the USNWG.
- (3) Weights and Measures in the United States – Background and History**
Participants will be briefed on the history of weights and measures standards in the United States. The USNWG will be provided with an overview of the structure of U.S. Weights and Measures Regulatory Community and the role of NIST. The standards developed by the USNWG once adopted as law and regulation by the States are intended to be the basis for criteria used to approve equipment for

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commercial use and be enforced by State and local weights and measures officials who regulate commercial weighing and measuring equipment. Participants will also be briefed on the standards development process.

(4) The NIST Weights and Measures Division (WMD) Long Range Plan

WMD has developed a long range plan to accomplish its goals to promote the United States transition to a hydrogen economy. Participants will be briefed on the NIST Weights and Measures Division plans to carry out its mission to promote uniformity in standards and technology development, in areas such as weights and measures requirements and procedures, to facilitate trade, both nationally and internationally in support of the hydrogen economy.

10:30 - 10:45 Break – coffee, tea, juice, and pastries

(5) What are the Goals of the Work Group?

The USNWG will work to establish a comprehensive set of device, fuel quality, and other legal metrology standards for equipment used in commercial hydrogen measurements for vehicle and other refueling applications. The ultimate goal is that these standards will ensure the accuracy of measurements, enhance consumer protection, foster fair competition, and facilitate economic growth and trade. These goals will be summarized and discussed.

(6) National and International Standards for Hydrogen Measurement

In the development of these requirements the USNWG should consider the interest of all stakeholders to ensure that national and international requirements are harmonized to the greatest extent possible and to avoid conflicts with other related hydrogen standards developed by other standards and codes developing organizations. Participants will be briefed on the status of related international documents of interest so that these documents can be considered in the development of U.S. standards.

12:15 - 1:30 Lunch – On your own

(7) Development of Standards for Commercial Hydrogen Measurement

*The USNWG will work within an existing network of experts in the weights and measures and hydrogen communities and promote the establishment of new work groups necessary to develop a set of standards that are appropriate for commercial hydrogen measurements. The commercial hydrogen measurement standards necessary to support the hydrogen economy encompass: (1) device and related equipment codes, (2) method of sale requirements, (3) labeling requirements, (4) fuel quality standards, (5) sampling procedures, (6) inspection procedures, test equipment standards, and safety practices, (7) training for officials and service companies, and (8) education of the public on hydrogen measurement.

3:00 - 3:15 Break – coffee, tea, soda, and pastries

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3:15 - 5:00 **(7) Development of Standards for Commercial Hydrogen Measurement (Continued)***

Meeting adjourns and reconvenes October 4 at 9:00 a.m. (EST)



AGENDA – DAY 2

Thursday, October 4, 2007, 9:00 a.m. – 5:00 p.m. (EST)
NIST, 100 Bureau Drive, Gaithersburg, MD 20899
Building 101, Lecture Room A
Moderator – Juana Williams

9:00 - 9:15 **Work Group Direction for Day 2**
The USNWG will review the work completed on October 3 to ensure the group agrees with the direction of the work, approach to achieving its goals, and to determine if there are any gaps in the development of legal metrology standards for hydrogen measurement. The group will begin by identifying and establishing a strategy for accomplishing these tasks. The group will then focus on reviewing and commenting on a draft code for devices.

9:15 - 10:30 **(7) Development of Standards for Commercial Hydrogen Measurement (Continued)***

10:30 - 10:45 Break - coffee, tea, juice, and pastries

10:45 - 12:15 **(7) Development of Standards for Commercial Hydrogen Measurement (Continued)***

12:15 - 1:30 Lunch – On your own

1:30 - 3:00 **(7) Development of Standards for Commercial Hydrogen Measurement (Continued)***

3:00 - 3:15 Break – coffee, tea, soda, and pastries

3:15 - 4:15 **(7) Development of Standards for Commercial Hydrogen Measurement***

4:15 - 4:45 **(8) Next Steps/Tasks**

AGENDA – DAY 2

Thursday, October 4, 2007, 9:00 a.m. – 5:00 p.m. (EST)
NIST, 100 Bureau Drive, Gaithersburg, MD 20899
Building 101, Lecture Room A
Moderator – Juana Williams

Ideas for how the work should progress to develop hydrogen measurement standards will be summarized. Projects work and target dates will also be identified.

4:45 - 5:00

(9) Next Meeting

At the conclusion of the October 3-4 meetings the USNWG will have a better understanding of the work ahead to develop hydrogen measurement standards. Much of the ground work can be completed by conference calls and email. However, four additional work group meetings are tentatively planned for February, May, and August 2008, and the fifth is to be determined. We anticipate that part of the work over the next several months will be to locate individuals who are available and suited to the task. The meeting locations will be based on the logistics and technical needs of each work group.

Meeting Adjourned



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